

THE CHEMIST

DECEMBER 1950



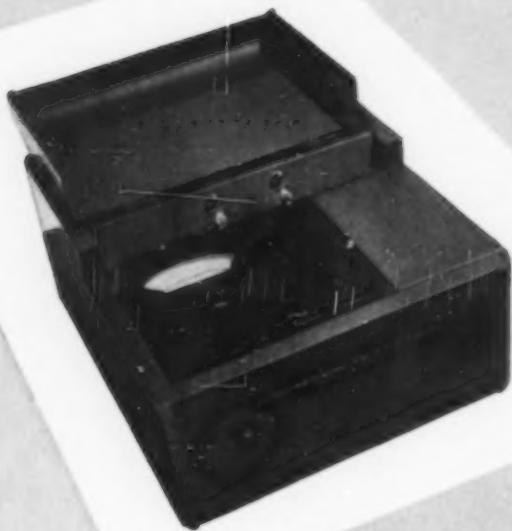
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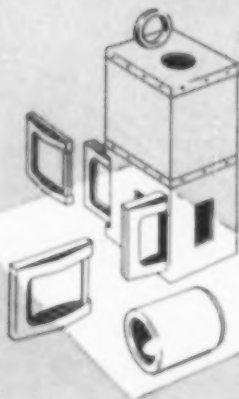
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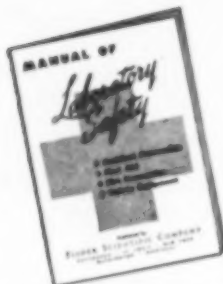
Cover Picture

Dr. George F. Rugar, chairman of the Ohio Chapter, AIC, is assistant manager of the Technical Service Division, Diamond Alkali Company, Painesville, Ohio. He received the B.S. degree from the University of Rochester in 1921; the A.M. degree from Columbia University in 1925, followed by the Ph.D. degree in colloid chemistry from Columbia in 1931. From 1921 to 1924, he was professor of science and mathematics at Wagner College; then instructor in chemistry at Columbia until 1926, when he joined Diamond State Fiber Company as research chemist. In 1928, he became research chemist and sales promotion manager of Hooker Electrochemical Company at Niagara Falls, where he remained until 1944. In that year, he was made manager of product development of Diamond Alkali Company, and in 1948 he was promoted to his present position. He served with the U.S. Army in 1918-19.

Among the associations to which he belongs are the American Association for the Advancement of Science; The American Chemical Society (councilor); the Chemical Market Research Association (recording secretary, 1947); the Commercial Chemical Development Association, the Armed Forces Chemical Association, the American Oil Chemists' Society, Phi Lambda Upsilon, and Sigma Xi.

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EDITORIAL

Fundamental Scientific Knowledge

Dr. W. George Parks, F.A.I.C.

Professor of Chemistry and Head of Department, Rhode Island State College, Kingston, Rhode Island. Director, Gordon Research Conferences, AAAS.

IT HAS been stated that the reservoir of fundamental scientific knowledge was almost drained dry at the close of the last war, and that it must be replenished without delay. How can this objective be accomplished?

Sufficient money is available today for research, both fundamental and applied, in college, university, private and government laboratories. Money alone is not sufficient. Individuals with a scientific mind capable of creative work is the first requirement. The educational process for providing this requirement must begin in our colleges and universities, both undergraduate and graduate schools. In many respects our rigidly scheduled curricula and requirements defeat or at least retard the development of the more alert, active mind. Dr. Bronk recently stated in an address to a college convention in Atlantic City that the rigid schedule, "lock step", now prevalent in our colleges and universities should be eliminated and that a student should be permitted to establish his own rate of progress, based on his achievement. A student should be registered

for graduate study when the ability to successfully do such work has been demonstrated, regardless of undergraduate or graduate standing. It is recognized that many colleges and universities could not operate this plan in its entirety, but a great deal more can be done than is now common practice. The educational process as established today is too standardized and mechanical because of the large scale on which it is conducted. Many individuals do not have an opportunity to develop to their maximum ability because they are carried along in a system regardless of any individual differences that may exist. The leisure time for reflection and thought is not available.

It should be recognized that, after college and university training, the opportunity for scientific men to cooperate and to know each other better is of primary importance. The value of a discussion of scientific interests and problems in a leisurely and informal manner in a satisfactory environment cannot be debated. It requires time and concentration to adequately understand another individual's point of view. The friendly,

unhurried exchange of information, with sufficient time for thought and discussion, will produce the desired results. Conferences, seminars and discussion groups should be organized. The number of individuals permitted to attend should be limited. The qualifications for attendance should be high. The program should not be a review of past accomplishments designed to educate the uninitiated, and should provide plenty of time for thought and discussion following the presentation of a subject by a carefully selected and adequately qualified individual. The "frontiers of science" should be the guiding principle. Both academic and industrial scientists should be represented and participate to obtain maximum value from the time spent.

The responsibilities with which most individuals are confronted today do not permit sufficient time for creative thinking. The creative mind does not have time to create.

The attention of chemists and other scientists is directed to the Gordon Research Conferences, AAAS, and other conferences and seminars which, if properly organized, are a means for providing this most valuable and important step in the development of scientific thought and information. This opportunity for exchange of ideas and ideals is vital if our country is to provide the world leadership which is now expected of us.

Fair Receives Bingham Medal

Dr. W. F. Fair, Jr., F.A.I.C., supervisor of the Westfield, N. J., laboratory, Tar Products Division of Koppers Company, Inc., and advisory fellow at Mellon Institute in Pittsburgh, was awarded the Bingham Medal of the Society of Rheology at a dinner in the New Yorker Hotel, New York, N.Y., November third. The presentation was made by Dr. R. N. Traxler, president of the Society. Dr. Fair was awarded the 1950 medal "for notable contributions to colloid chemistry, to the technology of bituminous materials, and to the science of rheology."

A native of Massachusetts, Dr. Fair was educated at Harvard and Columbia Universities. For more than twenty years, he has been closely allied with the industrial development of bituminous materials, working chiefly in colloid chemistry, emulsions, and corrosion resistance.

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--Weaver

Dr. R. E. Swain (left) accepting Honorary AIC Membership from Dr. R. P. Allard, chairman of the Los Angeles Chapter, as Mrs. Swain looks on.

Rambling Reflections

Dr. Robert Eckles Swain

Professor Emeritus, Stanford University, Stanford, California

("A travel talk to a company of friends," given by the author, when the Los Angeles Chapter presented him with Honorary AIC Membership.)

LAST APRIL, equipped with passports, military permits for the occupied zones of Austria and Germany, a packet containing the *carnet de passage*, insurance policies, and other international papers for the car, and left-arms as full of holes as grandmother's pincushion from shots, we boarded the French liner, *De Grasse*. Landing at Le Havre, which like all of the cities along the Normandy beaches, is just a sea of rubble

except where reconstruction is under way, our car was tanked up with gasoline at sixty-two cents per gallon, and we were off for Paris. Our route took us up the Seine through Rouen, whose magnificent cathedral with its lacy tower is in ruins, and then across the green, rolling hills, well-cultivated farm lands, and through villages with narrow, cobble streets and red-tiled roofs.

Paris was not badly damaged struc-

tually by the war and is again the meeting-place of the streams of influence of the civilized world. Sit any afternoon under the canopy of a sidewalk cafe on the Champs-Elysees and you can see natives of many lands go by. Food is plentiful and the shops filled with attractive goods, from perfumes to wearing apparel in infinite variety. But something has happened to the French spirit. There is something unstable in thought and action. The shifting value of the franc, around 370 to the dollar when we were there, and the sudden and frequent turnover in government, are examples. Three Prime Ministers were in office during our stay in Europe, one of them noisily elected around 2:30 a.m. one day, and noisily thrown out at 4:15 p.m. the next. Why? He had included Bidault, certainly one of their soundest statesmen, in the new Cabinet.

This is understandable after the four terrible years of Nazi domination and the last bitter months of fighting while the Allied armies drove the German army out of France. When peace came they were bewildered by the task ahead of them. Today they seem to be rapidly moving toward greater economic stability. Agriculture and industry are thriving, investment capital is more easily available, and tourists are spending enormous sums in the aggregate. But these encouraging facts are slow in getting over into the

minds of the French people.

Thence through the Vosges Mountains and along the Rhine, past the great potash mines near Mulhouse, towards Switzerland. Here we crossed another strip of devastation, the line of march of the retreating German army from Southern France in advance of Gen. Patton's swiftly moving forces. The damage is more typical of artillery shelling and machine gun fire than of aerial bombing, but it is severe.

Switzerland is a tourist's paradise—a country of incomparable natural beauty and of honest, industrious, frugal, straight-thinking people. War added greatly to the national wealth and industries multiplied. Their universities are crowded with students and chemical research is going forward, although with too meagre financial support. This is balanced somewhat by able and well-supported research groups in some of the strong industrial concerns.

Italy

Southbound, our route took us to Geneva and over the lofty Simplon Pass to Italy. The Pass is closed by snow in normal years until well into June and this was the middle of May. At the lovely village of Sion, the genial hotel master told us that, due to a light snowfall last winter, the pass had just been opened, but it was no road yet for a heavy American car. We decided to try it, a second or

RAMBLING REFLECTIONS

third gear climb of fifteen miles. We slipped around on snow patches; and the many dark, curving tunnels with icicles hanging from the ceiling, and ice paving the roadway were a nightmare. But we made it. Those who have crossed it know the reward. From this crest of the main Alpine range one looks down into the deep gorge of the Rhone, and beyond to the magnificent Bernese Oberland, with the peaks of the Jungfrau, Moench, and Eiger rising to the sky. To the East is the majestic Matterhorn and, beyond, Mont Blanc.

Then down to the lovely Italian lakes, to Milan, damaged badly but rapidly coming back; the superb marble cathedral showing some shell hits but not badly damaged. Thence to Genoa, destroyed in spots, especially around the Union Station and the docks. From there along the Italian Riviera, to Spezia, with hardly a single stretch of straight highway longer than a city block, and to Pisa and Florence. The latter was shelled. All the ancient bridges over the Arno are gone except the old Ponte Vecchio, with its many little shops. Fortunately, incomparable Fiesole with its old monastery and fine patrician villas, where so many famous painters, writers, and musicians have lived through centuries past, is undamaged.

Then over the Apennines to Bologna. Along that ancient highway, the old stone villages are levelled

to the ground since they provided shelter for sharpshooting by the retreating German army. A saddening sight is the many cemeteries with hundreds of white crosses which mark the graves of those who lost their lives in battle. Villages of the living have given way to villages of the dead. Bologna, including its university, one of the oldest in the world, is badly damaged.

Perhaps nowhere in Western Europe has the Marshall Plan brought better results. Without the 600-million dollars spent there, Italy would have remained prostrate and the frontiers of communism would have advanced though Sicily to the trade lanes of the Mediterranean. Agricultural production was low, land impoverished, livestock deteriorated, people discouraged. In these few years, livestock breeds have been improved, great areas of arable land reclaimed by irrigation, swamps drained and new varieties of plants, such as hybrid corn, introduced. Tractors and other farm machinery have been brought over in enormous quantities. Communism, which three years ago claimed over one-third of the population, is slowly but certainly receding. If Italy could be relieved of the burden of illiteracy, poverty, and indolence in the great areas south of Naples, where lie the most deeply-rooted centers of communism, it would have a prosperous outlook.

Across the broad and fertile valley

of the Po from Bologna to Padua and Venice, we passed irrigation canals, dikes to guard against the floods, green alfalfa fields, well-kept orchards, vineyards, and great areas of vegetable gardens. From Venice, undamaged and crowded with tourists, we crossed the Brenner Pass through the Tyrolean Alps to Innsbruck, one of the great trade lanes of Europe. The great migrations came this way as they swept down on Rome. Tribesmen, crusaders, merchants of the Hansa, with their caravans in the rich trade between Venice and the North, went this way for many centuries.

Austria

From Innsbruck, on the rushing Inn River, we turned eastward around the mountain peaks of Berchtesgaden, Hitler's lair, to Salzburg, then to Linz on the Danube. Here are tied up the fine old river steamers which run down to Vienna, idle now since the Russians control the river and the Americans have the fleet.

It was a glorious drive down the Danube from Linz to old Vienna, gliding along through rolling country. Off to the south, rose the Tyrolean Alps with the superb Gross Glockner summits. Ahead was the Enns Bridge, the western border of the Russian zone. At the west end of the bridge, young American inspectors stepped out cheerfully to check up on our papers. Then trouble came. Mrs. Swain and I had separate entry

permits, exact duplicates. However, under careful examination, a slight erasure was found. The date of issuance of her permit showed signs of a changed digit. This was not of significance. The dates defining the limits of our stay alone counted. But, told that at some of the inspection posts in the Russian Zone enroute to Vienna this would surely be detected and result in our being escorted back to the American zone, we waited two hours for the summoning of a Captain from Linz. He issued a temporary permit good for three days. It took nearly a full day in Vienna to obtain another standard one. This is Russia. Here, five years after the war, one must get to this great city along a corridor where Russian sentries are eager to display their contempt for Americans by taking advantage of any device to send them back. By contrast, an American can pass into the British zone, in Vienna without even knowing that any bounding line exists.

Destruction in Vienna is widespread. Every one of the magnificent stone buildings which adorned the famous Ringstrasse—the opera house, the Burgtheatre, University buildings, St. Stephan's cathedral, and many hotels are badly damaged. All over the city incendiary bombs and machine gun bullets have left their scars. Like the Swiss, the Austrians are a straight-forward, honest people. Good cheer, a happy outlook, native

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courtesy, and a love of good music are a part of their nature. It was an occasion for a musical spree and we saw three operas and the opening days of the International Bach Festival there. All were superbly presented, fully equal to the best of pre-war years anywhere.

The great University and its famous Medical School have more students than they can accommodate, using temporary quarters for classes while reconstruction is going on. As in Germany, persons of professional rank, especially in academic circles, are shown great respect. It is a wonderful country in which to be a University professor!

Austria is the bargain counter of Western Europe. Food is abundant and cheap, due to the low valuation of the schilling. Imported goods are high, but Austrian goods are inexpensive. It is a haven for antique collectors.

Germany

Back at Salzburg, we crossed the Inn River into Germany, tapping the great Autobahn which the Nazis built. From this southernmost point of the Reich we drove over those superb highways all the way to Hamburg. They are four-or six-lane, with a park strip in the center, encircle all cities and towns, have overpasses for intersecting roads, feeders to and from important points, and no speed limits.

Only a few German cities, such as

Heidelberg, Flensburg, and Celle, are undamaged. Destruction is amazingly widespread. Cologne, viewed from the South, is a waste of blasted, roofless walls. The majestic cathedral, due to its location near the main railway station and the bridge over the Rhine, suffered a score of bomb hits and is badly scarred and partly unroofed, but will be restored. Munich is a scene of appalling destruction. The beautiful buildings are wrecked beyond all repair, and the famous chemistry laboratory where von Bayer, Willstaetter, and many other great men worked, is gone. The Hofbrauhaus was not badly damaged and is running full blast on the first two floors.

Hamburg, that fine old city of the Hanseatic League, was one of the last to yield to the Nazi movement, and that anti-Nazi hatred was never wiped out, even during the war. Hitler made the harbor a submarine base and a place for the construction and repair of warships and planes. This led to the complete destruction of the docks and warehouses. Then, presumably to turn the worker population against the Nazi in the last years of the war, many square miles of red brick apartment houses were blasted to the ground by English bombers. Undamaged, except for an occasional incendiary bomb, are many sections of the beautiful residential districts around the Alster, the lovely lake which winds for miles through

the heart of the city. The badly bombed business center has already been restored to a surprising degree. All of this precision bombing destroyed many civilian lives, here as in all of the heavily bombed cities of Europe. Plainly visible across the sea of rubble of wrecked laborers' houses is a lofty mound which was the site of a large department store. Its basement was a favored bomb shelter. One day a direct hit by a block-buster bomb shattered the structure, crushing and imprisoning 231 men, women, and children beyond any hope of escape.

One of the most striking phenomena of bombed structures over Western Europe is the stability of the modern smokestack. There they stand, like stark sentinels, looking out over a sea of destruction. In the Ruhr Basin one can count scores of these tall, slender, tapering chimneys rising from the ruins of the Krupp and other great industrial plants. This also holds for the many monuments erected on round shafts.

In nearly all of the large cities of Western Germany, Duesseldorf, Hanover, Frankfurt am Main, Kassel, Stuttgart, the business districts are badly shattered. Main streets are now cleared and repaired; street cars running; the public market places lively as ever, and business on the move. They simply clean out the first floor, finish the interior in modern style, install plate glass windows and showcases and open up. Old blasted

four or five story buildings, with jagged walls, the steel reinforcing holding dangling masses of concrete, become smart, one-story shops. The amount of consumer goods in these stores is amazing. Jewelry shops, cameras and photographic supplies, "Salamander" shoe stores, German "Woolworths", hardware, crockery, furs, radios—anything including Bor-solino hats and silk ties from Italy, gloves and gowns from Paris, wines and liquors from France and Holland. The incomparable German delicatessen stores are overflowing with sausages, cheese, smoked and salt-brine fish, Portuguese anchovies, canned fruit, some from California. There are alluring bakeries with matchless bread and pastries, ice cream and soda fountains, American style. Restaurant food is good. Rich soups, Wienerschnitzel, venison and hare in season, pig's feet and sauerkraut, raw ham and asparagus, are common items on every menu, with prices about what they are here.

Germany is coming back fast. Iron and steel production and industrial activity in many other lines are above prewar figures. For example, the great Leica plant at Wetzlar, where I spent an interesting day, is three months behind on orders and has the greatest output in its history. Unfortunately, the Zeiss plant near Jena is in the Russian zone, and its output is unknown.

One of the most serious losses suf-

fered by the universities is the destruction of libraries. This is leading to the development of a nationwide movement toward micro-filming library materials. Among other concerns, the Leica Company has a research group working on this problem. There are devices, largely automatic which do most everything but insert the document and turn the pages. This also means reading devices and systems for filing and cataloguing. In every city where there is a library center, one finds concerns which do micro-filming or photostating for libraries and research workers, such as the American Chemical Society is doing for chemists here. It may become an established feature in library practice of the future. There are hurdles to overcome, but there are many advantages, one important one is that the grave problems of storage space, shelf room, and weight are solved by it.

The Netherlands

The tinkling chimes are ringing out again from the lofty church towers all over Holland. Peace is there again. It is a country a little larger than Maryland. One is thrilled by its charm and beauty, its well-built homes, fat cattle, green pastures and meadows, and good roads. Yet this little country, with about the population of California, was one of the largest colonial empires in the world with 800,000 square miles of territory and seventy-million inhabi-

tants. The invasion by the Nazis on May 10, 1940, was a terrible blow. Their small army was quickly overcome. Dikes were cut, vast areas flooded; their largest city, Rotterdam, blasted to ruins; ships sunk, and property seized. Amsterdam was left undamaged. Though defeated, a general strike was called and that sturdy people grimly sat it out. No coal for heating, food down to starvation levels, no light at night, privation widespread. Meantime, quiet resistance was organized. Two-hundred-thousand Dutchmen went into hiding to escape being drafted and sent into slave labor camps by the Nazis. They soon found means of forming into groups, first up along the bleak north coast, then spreading southward until the number of these groups, intercommunicating by scrawled notes or secret codes, reached many score. They spread havoc among the invaders. Nazi sentries were toppled into the canals on dark nights, and gestapo agents relentlessly tracked down.

Two-hundred-thousand Dutchmen were killed in the war, approximately one-half of these being of Jewish blood, most of the latter dying in the gas chambers of Auschwitz. One of them was my old friend, Prof. Cohen, whose textbook in organic chemistry some of you probably used. He was president of the International Union of Chemistry for the years 1926-28.

Conclusions

I came back from Europe more hopeful of prolonged peace over there than I have been since the middle thirties, when "that maniac of ferocious genius," as Churchill described him, Corporal Hitler, was in the saddle. This conclusion is based on a number of factors:

(1) The rapid recovery among the nations of Western Europe. If this keeps up, since replacement of property and goods destroyed in the war should guarantee a seller's market for years, even the iron curtain will not continue to stand as a serious threat. It is nothing but a shield behind which to hide the brutalities and failures of communism. Some of the overrun satellites are turning to "underground" methods, knowing that, with the secret ballot and free speech throttled, revolution is the only pathway to freedom.

(2) There are 47-million Germans in Western Germany moving forward to a strong democratic government under a statesman of first rank—President Adenauer; industries are thriving; tourists are coming in to the limit of hotel accommodations; exports are ahead of imports; and the currency is stable. In Eastern Germany are 18-million Germans, the majority of whom detest communism though they must live with it, but they long for a united Germany. They are escaping into Western Germany in large numbers,

thus adding to a serious housing situation, and their stories of communistic despotism are getting around. Eastern Germany is a growing headache for the Soviets; and that holds for Austria, too.

Some years ago, I went to Finland and drove northward a thousand miles to Rovaniemi, looking over paper and pulp plants. Here I learned there was a passable road to Vienturiemi, two-hundred miles beyond the Arctic Circle in the land of the Laplanders and reindeer, where there was grand fishing on the Iseri Joki River and a comfortable inn. The opportunity could not be resisted. Home again, my friends asked why I had gone up beyond the Arctic Circle to catch fish? The answer was easy. The fish there don't know anything about those devilish lures which wicked men have devised to lead them to destruction; the fisherman can fish around the clock; and most important, he can work off on the folks back home the most fantastic stories, without being checked up on how big or how many, or whether he even used dynamite on the helpless victims.

That other circle, the iron curtain, deals with human beings, not with fish. My facetious reasons for getting beyond the Arctic Circle to catch fish are precisely the reasons why the Politburo operates behind an iron curtain. It depends upon deception to entice its victims, it works around

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the clock, it shuns the light and the truth, and when its tricks do not work, it brutally turns to force. Fortunately, it is slowly being found out. As we look over the European picture, we see west of the iron curtain and up in the Scandinavian countries a strong tide sweeping toward recovery. Hope is burning anew in the hearts of millions of people. Two arch-villians who rose to brutal dictatorship are dead, one shot by his own countrymen and the other by suicide. But another has arisen who, with the little group of the Politburo around him, has the same dream of world domination.

In the confession of a British traitor, a Soviet atomic spy, who visited this country with a British Commission and was given access to highly confidential information on atomic fission, we find this statement in the record of his trial for treason in England: "I realize that there are certain standards of moral behavior that are in you, and which you cannot disregard." Dr. Klaus Fuchs then frankly confessed that any sense of moral integrity which he had possessed was no longer alive. The dogma of communism had taken over. In that confession, this moral weakening disclosed the abyss which lies between us and the leaders and followers of the communistic world. Robert Millikan quotes this extract from Stalin's writings: "Words have no relation to action — otherwise

what kind of diplomacy is it? Words are one thing—actions another. Good words are a mask for concealment of bad deeds. Sincere diplomacy is no more possible than dry water or wooden iron." What a pity it is that at Yalta and Potsdam, this statement by "good old Joe" was not indelibly written on the minds of those who had to deal with him. He has continued to hold that doctrine of falsehood and dishonor through the ensuing years.

(3) The nations of Western Europe are rapidly coming over to the idea of getting closer together. Benelux, a union of Belgium, Netherlands and Luxembourg for lowering trade barriers and custom control is in action.

(4) Then came the Schuman plan. This is of great significance. Coal and steel production in six neighboring nations is to be pooled under a common high authority. Hydroelectric power may soon follow. It is the first big break in the European balance-of-power which has so often provoked war. This move toward economic union must have a favorable bearing upon political cooperation. It is the first important step toward some type of federation. It has the backing of a vast majority of the French; and Western Germany dominantly is for it. For the first time in centuries, Germany and France are engaged in amiable dis-

cussion on a question of vital interest to both.

(5) Finally, the Atlantic Pact program for united military action is moving ahead fast, spurred by the Korean war.

Along with these movements, others less publicized are under way. The two most powerful forces in the world are science and religion. Both are international in scope. They are limited by no national boundaries, and they prosper in an atmosphere of freedom and understanding. Both are now in action in high gear. Several world conferences on religion and peace were held this year. In 1949, the United States participated in 140 international meetings of scientific or technological character. In 1938, there were forty-one. The movement is so great that our Department of State in cooperation with the National Research Council is setting up a separate office and staff to make wider use of men of science and scientific organizations as agents which promote world peace. I have seen the International Union of Chemistry with its membership of over thirty participating nations, stage several meetings during times of international stress. That in Madrid in 1934 was just before the revolution in Spain, and the Rome Meeting in 1938 met a supreme test, for Hitler made his famous visit to Mussolini in Rome only one-week before

the Union assembled. Only a short time before, Austria had been overrun by the Nazi army and its government seized. Two-thousand six-hundred chemists registered for the meeting, including large delegations from France, England, Germany, Austria, the United States. There was every where a spirit of cooperation. The scientific atmosphere engulfed all. In these scientific organizations communist influence is negligible in amount, and the same is true of religion. They both seek the truth and this is never one of the objectives of communism.

Time is on our side in Western Europe. The shabby iron curtain as a dividing line between the forces of despotism on one side and freedom on the other carries one blessing. Its very existence is giving strength and momentum to international cooperation among the forces of democracy.

In my judgment the outlook for peace is now more promising than for many years past. Democracy has yet a long road to travel and must be ready to fight communism wherever it raises its venomous head. Every democratic nation must write in letters of light to all its people in all ages to come that it stands for peace, for freedom of speech and press, and religious belief, for the secret ballot, and for a world of united nations.

Introduction

Dr. L. F. Pierce, F.A.I.C.

Director, L. F. Pierce Laboratories, 2007 Wilshire Blvd., Los Angeles 5, Calif. Representative to AIC National Council from Los Angeles Chapter.

(Introduction made at the presentation of Honorary AIC Membership to Dr. R. E. Swain)

NEARLY a decade after the War between the States, a child was born in Hollister, Calif. In 1899, Leland Stanford, Jr. University conferred upon him the Bachelor of Arts. The Master of Science was conferred by Yale in 1901, followed by the Doctorate in Biochemistry in 1904.

During his last year in Stanford, Dr. Swain served as an assistant in chemistry and he now returned to rise in the ranks to full professor in 1912 and department executive in 1917. From 1929 to 1933, he was acting president of the University, and he became Emeritus in 1941.

He was and is, to this day, an able, skilled and polished teacher who inspired all about him. He was and is a productive scholar both in original investigation and the direction thereof on the part of his long list of graduate students. His energy was such that he found opportunities for service beyond the academic groves. It is interesting to note that he served his country as a special agent of the Department of Justice more than four decades ago.

Los Angeles has been plagued by industrial fumes for some years. This is an old story to Dr. Swain who was

closely connected with such a problem of greater intensity in the affair of the smelters of the Salt Lake Valley, three decades ago.

Before and since retirement, he has been closely connected with industrial problems as well as pure science—and the inevitable admixture of the two. He could readily discuss with us for hours, the problems of air pollution, the effect of sulfur dioxide on plants, animal metabolism, certain phases of toxicology having to do intimately with our daily food intake and the products of certain enzymes in the course of digestion.

This man knows the world well. He has just returned from his eleventh trip to Europe. This trip has been one of collection of documents for the Hoover Library. He simply cannot be other than an intelligent and close observer of things about him. A pertinent side-light is the fact that all his life he has been a hunter and is still a skilled wing shot. If his life is not a rich and rounded one, no man can lay claim to such.

Here in the presence of former students, old friends, and new friends, THE AMERICAN INSTITUTE OF CHEMISTS is honored in the very

act of conferring Honorary Membership upon him.

Whatever he sees fit to say to us in response, can only be what one of the genuine Elder Statesmen of

Chemistry can and must say to us as he speaks from a background of peculiar richness of the spirit, the mind, and the body as he enters upon the fourth quarter of his century.

Brief Biography of Dr. Swain

ROBERT Eckles Swain is one of those rare individuals today, a native Californian. He is the son of one of the early California pioneers, his father having crossed the plains during the gold rush of 1849.

Dr. Swain was born in Hollister, California, on January 5, 1875. He received the Bachelor's degree from Stanford University in 1899; the M.S. and Ph.D. degrees being conferred by Yale University in 1901 and 1904, respectively. In addition, he found it possible to sandwich several years of study at Strassburg and Heidelberg between the latter two degrees. The College of the Pacific conferred the LL.D. degree on him in 1929.

Much of Dr. Swain's life has been spent at Leland Stanford University, where he rose through the ranks from instructor to professor, executive department head, and acting president of the university. He has been emeritus since 1940.

Dr. Swain's record of service has been little short of phenomenal. Over the years, he has been Special Agent for the U.S. Department of Justice

in smelter smoke investigations; expert chemist for the U.S. Department of Agriculture; member of the U.S. delegation to the International Union of Pure and Applied Science for many years, being vice president of that organization from 1938-1947; a member of the International Committee on Biochemical Nomenclature; chairman of the committee on Biochemistry of the National Research Council; a member of the American Chemical Society's national committee on professional training, the committee on professional status, and that on the training of chemists, as well as being a director of the American Chemical Society. He acted as production consultant to the War Production Board during World War II, and he is a Chevalier of the French Legion of Honor.

Among the many societies in which he holds membership are: The American Association for the Advancement of Science, the London Chemical Society, the California Academy of Sciences, the American Chemical Society, the American Association of Biological Chemists, Al-

pha Omega Alpha, Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon, Alpha Chi Sigma, the National Economic League, the Republican, Methodist, and Bohemian Clubs.

Food Research Laboratories Expand

Dr. Bernard L. Oser, F.A.I.C., director of Food Research Laboratories, Inc., announces that Dr. Kenneth Morgareidge, formerly director of the Biological Laboratories of Nopco Chemical Company, has been appointed chief chemist of the corporation. Dr. Oser also announced the acquisition of an adjoining building which will increase the effective laboratory space by about 75 per cent. The growing activity in toxicological problems associated with the introduction of new chemicals in the production and preservation of foods has helped to make the expansion necessary. In this connection, Dr. Oser has testified on several occasions at Food and Drug Administration hearings.

Bjorksten Staff Additions

Staff additions to the Madison, Wisconsin, Laboratories of Bjorksten Research Laboratories, are:

Robert J. Roth, who has completed ten years of service with the American Optical Company, where he was project and product development engineer. He is associate editor of volumes 2, 3, and 4 of *Jacobson's*

Encyclopedia of Chemical Reactions and an abstractor for *Chemical Abstracts*. Columbia conferred the B.S. degree and the M.S. degree in industrial engineering upon him. His unusual hobby is that of transcribing books into Braille for the blind.

Stephen Marshall, who recently received the B.S. degree in chemical engineering from the University of Wisconsin. His hobby is yacht racing, at which he has won several trophies.

Dr. Earle A. Weilmuenster, section leader in organic synthesis, who previously directed organic research for the Lubrizol Corporation, Cleveland, Ohio. He received the Ph.D. degree from St. Louis University in 1942 and has been active in the synthesis of complex organic compounds for industrial uses. He has also been assistant professor of organic chemistry at the John Carroll University, Cleveland.

Dr. Gustav Egloff, Hon. AIC, advisor to Board of Economic Warfare on Oil Resources and Substitute Fuels in Europe and member of the Advisory Board of the Chemical Corps, discussed "Oil Supplies in a World Emergency," before the Town Hall Club at the Biltmore Hotel, Los Angeles, on November 13th. On November 15th, he spoke before the Los Angeles Breakfast Club on "The World Outlook for Petroleum."

No Nitrogen Shortage

Dr. Eugene D. Crittenden, F.A.I.C., chief of research, Nitrogen Section, The Solvay Process Division, Allied Chemical and Dye Corporation, spoke August 21st, on the opening program of a three-day schedule of lectures before the Soil Science Society of America at College Park, Maryland.

Dr. Crittenden stated that "synthetic methods of obtaining nitrogen from the inexhaustible supply in the air are so well developed and perfected that no need to fear a nitrogen shortage is seen." Last year U.S. consumption of nitrogen materials as plant food reached an all-time high of nearly a million net tons, nitrogen equivalent. He predicted a continuing uptrend in the demand for nitrogen compounds due to the heavy depletion of natural plant food resources, the ever-increasing requirements for food and fibers, and for defense chemicals.

Spectroscopy Meeting

The January meeting of the Society for Applied Spectroscopy will be held at 8:00 p.m. at the Socony-Vacuum Training Center, 63 Park Row, New York, N.Y. on January 9, 1951. Dr. Harold K. Hughes of Socony-Vacuum Laboratories will speak on "Quantitative Chemical Analysis by X-ray Absorption Spectroscopy."

Spectrographers' Symposium

The American Association of Spectrographers announces a symposium on the "Use of Spectroscopy in the Steel Industry," to be held in Chicago in May 1951. Papers from members or non-members, on any phase of the subject, are invited. Titles should be in the hands of the chairman of the Symposium Committee, Ralph H. Steinberg, F.A.I.C., 9531 Avalon Ave., Chicago 28, Illinois, at the earliest possible date.

Rev. Pallace at St. Peter's

Rev. James J. Pallace, S.J., representative to the National Council, AIC, from the Niagara Chapter, during 1949-1950, when he taught at Canisius College, Buffalo, N.Y. is now at St. Peter's College, 2652 Hudson Boulevard, Jersey City 6, New Jersey.

Palmer Appointed General Manager

Dr. Henry F. Palmer, F.A.I.C., consultant on rubber technology, Akron, Ohio, has been appointed general manager of the newly-formed Kentucky Synthetic Rubber Corporation which will operate the Government owned synthetic rubber plant in Louisville, Kentucky. The plant, which has a capacity of 30,000 tons of cold rubber a year, is expected to be in operation in January, 1951.

Why Politics?

Dr. Charles C. Price

Head Department of Chemistry, University of Notre Dame, Indiana

(The thoughts of a chemist who campaigned for the Democratic senatorial nomination in Indiana.)

MANY PEOPLE have asked the question, "How in the world did you ever get involved in politics?" Now that I have come to realize the vital importance of politics, domestic and international, to all of us, I wonder how I, or any other citizen, can not be interested in politics. I hope at the very least that my political activity will stir up a realization that (a) politics is not just the politicians' business and (b) that anyone can and is welcome to take an active role in political affairs. We must realize that politics is everybody's business and all should take a serious and responsible interest in it.

Certainly no scientist can underestimate the value of his scientific contributions to the progress of our civilization. Essentially, the work of the scientist leads to the discovery of new materials and new powers, new ways of controlling and using the forces and materials of nature. The important fact not commonly recognized is that the discovery of new power is not less important than the decisions of how that power will be used. The discovery of power is largely the work of the scientist; many vital applications of it are

largely influenced by politics. The scientist must therefore recognize his relationship to political decisions and assume his fair share of responsibility for these decisions.

The scientist's share in politics should be not less but more than the average citizen because the scientist has (a) a clearer understanding of the new power that is available to mankind and (b) has been trained to derive conclusions based on logical deductions from facts.

In my opinion the most important facts changing the world today are the tremendous new sources of energy and power available to mankind. Within the past few hundred years we have transformed human society from dependence on handpower, footpower, windpower, and waterpower to power from electricity, internal combustion engines, jet and rocket propulsion and, last but not least, atomic energy. These new sources of power, power to transport, to travel, to build, and to produce more rapidly and in greater quantity than ever before are if properly regulated and disciplined, the physical basis for a better standard of living for everyone in the world. On the

other hand, they are if uncontrolled and undisciplined now sufficient to literally blast our civilization from the face of the earth.

The momentous decision of our times is not "can we stay where we are—or go back to 1900", but the choice between using the power we now control physically to bring abundance, prosperity, and security to all—or to bring death and destruction to a large part of western civilization. This decision is largely a political decision. It must be made by our people, by our leaders and by the peoples and leaders of other great nations of the world.

During the past eighteen years of Democratic administration, much has been done within our borders to insure that the benefits of our modern civilization will be used for the common welfare. Some of the actions have been carried out imperfectly and much yet remains to be done—but clearly the program of the Democratic party has recognized the new facts and has tried to take political actions to meet the new situations. It has not tried to evade the responsibilities of government or to solve problems by ignoring them—as the ostrich with its head in the sand!

Of even more urgent and vital need is action to solve the most crucial international political problems. It seems to me we must recognize the fallacy of expecting to get along with the Russians, or any other

power, on the basis of agreement on issues as is required by the present constitution of the United Nations. We Americans have vital differences of opinion on many important and controversial issues. We have, however, a constitution which established means of reaching binding and enforceable decisions on those controversial issues which affect the common welfare and security and at the same time guaranteeing certain inalienable individual rights and a respect for human dignity.

The most urgent problem of our time is to establish the United Nations on the same basis. In order for the United Nations to act effectively in this way, there must be worldwide quota disarmament, inspected and enforced by a U.N. police force, and the U.N. must be given a more reasonable voting procedure on all matters of international security so that it may become the instrument of worldwide justice, law, and order. The United States should immediately take action in this direction, first by passing the world federation resolution in Congress, sponsored by 115 Congressmen and twenty-two Senators, and then by seeking support within the U.N. for a Charter Revision Conference. Until such time as our welfare and security can be guaranteed by law in this way, we must, of course, be prepared to defend ourselves by force if necessary.

WHY POLITICS

How to Participate in Politics

Perhaps these beliefs of mine can give some indication of the reasons for my decision to devote a portion of my time to the important arena of practical politics. There are many ways that each of us can contribute to political progress, depending on circumstances and personal qualifications. These range from voting regularly at primary as well as regular elections and serving as precinct committeemen, to running for local, state or national political office, as well as by activity in various political clubs and responsible political action groups.

As a result of my recent campaign for Democratic senatorial nomination, I am convinced that such efforts are important and worthwhile. I was cordially and seriously received by the great majority of members of the Democratic party organization. There is certainly no reason for discouragement over lack of success in the first campaign. Continued activity, based on clearly expressed principles and convictions of necessary political action, is bound to be an influence on political decisions. It is of vital importance for anyone entering politics to recognize that politics is a cooperative venture, a team game, and willingness to serve and help others is an important attribute for success.

Some people have wondered about the wisdom of incorporating world federation as such an active plank in my personal political program, since Indiana is traditionally believed to be

an "isolationist" state. There are a number of reasons why I considered it important to include this. Among them are my deep conviction that it is the best way to protect and promote our belief in freedom and human rights as well as our prosperity and welfare, that it is both practically and morally the course of action most likely to assure the continued welfare of our people and our country and that the basic common sense of the average voter would influence him to support candidates who had the courage and conviction to take sound and vigorous positions on the many important political issues we face today. No important political issue can be noncontroversial; there will always be some opposition. The opposition must not deter us from pushing for just and reasonable solutions. This is democracy at work — long may it live as a great American contribution to the welfare and freedom of the peoples of the world!

Study of German Synthetic Waxes

P. F. Dewey, M.A.I.C., 1118 Watts Avenue, University City, Missouri, announces that PB Report PB34727, Study of German Synthetic Waxes, translated by S. S. Cosman and reviewed by him, is available at a price of \$10.00. The report contains formulas, procedure for manufacture, and applications of the I. G. (Gersthofen) waxes.

Edwal Forms New Company

Dr. W. S. Guthmann, F.A.I.C., president of Edwal Laboratories, Inc., announced the formation of a new company to market the packaged line of Edwal photographic specialties. Dr. Edmund W. Lowe is owner of the new company to be known as "Edwal Scientific Products Corporation."

New Soybean Plant

A. E. Staley Manufacturing Company, Decatur 60, Illinois, corn and soybean processor, announces construction plans for a modern soybean processing plant at Painesville, Ohio, with a daily capacity of 10,000 bushels. Construction will start in January with completion scheduled for the fall of 1951.

Cenco Elects

Central Scientific Company, Chicago has elected Dr. Harris M. Sullivan vice president and director of research and development. Dr. Sullivan has been with Cenco since 1944 as assistant director of research.

Dr. Gustave T. Reich, F.A.I.C., spoke on "Recent Developments in the Alcohol Industry" at the Colegio de Quimicos held July 31st in Mexico City, and on "Molasses for War and Industry," at the Biennial meeting of the Nacional de Maestros Quimicos Azucareros, August 22nd, in Havana, Cuba.

Plant Maintenance Show

Clapp and Poliak, Inc., 341 Madison Avenue, New York 17, N.Y., exposition management, announce that the Plant Maintenance Show, conducted for the first time early this year, will be held again at the Auditorium, Cleveland, Ohio, January 15-18, 1951. Already, 120 companies have leased booth space. Advance registration cards and information may be obtained from the management.

New Protective Coating

Dr. J. V. Steinle, F.A.I.C., research and development director of S. C. Johnson & Son, Inc., Racine, Wisconsin, announces that the company has developed a new coating that provides unusual protection against rust and corrosion for metal surfaces. After many months of testing, he predicts that men in the building industry will find this wax particularly adaptable to their needs.

Congress of Applied Mechanics

Illinois Institute of Technology will be host to the First National Congress of Applied Mechanics to be held June 11-16, 1951, in Chicago. Papers for presentation at the Congress should be submitted before April 14, 1951, and should constitute original research in applied mechanics. Information may be obtained from Lloyd H. Donnell, research professor of mechanics, Illinois Institute of Technology, Technology Center, Chicago 16, Illinois.

From Industry to Teaching

Dr. John Happel, F. A. I. C.

Professor and Chairman, Department of Chemical Engineering New York University, New York 53, N.Y.

(One of a series of papers prepared by members of, and reviewed before publication by, the Chemists' Advisory Committee, New York Chapter, A.I.C.)

WHEN I first began actively to consider the possibility of entering the teaching profession, one of my good friends who had been teaching chemical engineering at one of the large midwestern universities cautioned me to be certain that it was not a case of "the familiar greener grass law" operating. This would certainly appear to be good sound advice to give a person who had spent seventeen years as an engineer with one of the large petroleum companies. However, I decided that from what I had seen of the above law, it usually operated in the reverse direction. Many of my acquaintances in academic work had succumbed to the blandishments of the larger salary offered by industry. Teaching still seemed to offer a number of opportunities and a way of life quite attractive to me, so when an opportunity presented itself, I made the change. Now, after teaching for two years, I still feel as enthusiastic as before about it, and so have been tempted to sing its praises to anyone whose inclinations might run parallel to mine.

It is no secret that people often work for other things than money

and in professional men the desire to do something generally useful for society and the pleasure in seeing recognition of one's efforts in that direction has been shown to be a very powerful force in job satisfaction. To me it appeared that there could be no better way of accomplishing this than by association with young men. I had always enjoyed building up groups in the company with which I had worked and in showing young apprentice engineers how the "slide rule" could be used to solve industrial problems as well as for passing examinations. During my own undergraduate days, I recalled how interested we were in the ideas of professors who had been out practising the kind of engineering we were still studying in theory. America of the future must be devoted to the task of helping other nations rise to the level where there are enough of the material goods on hand for everyone. This is one way for the engineer to help in the problem of peace between the "have nots" and the "haves." Surely young engineers educated in the viewpoint that engineering is not only a way of making money but a profession will be a good asset to our surety in this direction.

Advantages

Another appealing aspect about engineering in the role of a University professor is the variety of activity which it affords. In my case, the work includes a balanced group of activities which roughly fall into the classifications: teaching, counselling, research, administration, and consulting. All of these activities appealed to me and it seemed that with such a variety to select from, life would very seldom be monotonous.

Along with great variety, academic life offers much greater independence of thought and action than is usually possible in the line type organization which is necessary in the industrial field to maintain efficiency and discipline. The ideal staff consists of intelligent people, who, except for a few stated commitments on schedule such as hours for teaching classes and conducting examinations, are free to accomplish what they are capable of on their own initiative, without any outside pressure. With the right type of people, a loose academic organization will often accomplish as much in the way of original thought and research as industrial organizations many times its size.

Finally, though the list might be multiplied indefinitely, an important consideration in my case was the time for purposeful leisure. The long summer period which is free from classes may be devoted to something along purely academic lines, such as

research, writing a book, or refurbishing graduate courses. Or it may be used to live one's life in the many ways that appeal to an educated person—travel, sports, and the arts. Even occasional loafing, doing nothing but living at the level of the senses, brings a sense of release impossible in the crowded efficiency of the industrial system. In any case a chance to see horizons both mental and physical beyond one's immediate job is important in a country where the task of obtaining a bare subsistence is not as important as a generation ago. If you are not interested in many of the things that more money can buy—a bigger car, a television set, etc., then "time is money" may no longer be your maximum and you may be willing to trade some of the money you might make in industry for some of the time you obtain in academic life.

A word of Caution

One word of caution is in order, because obviously there are disadvantages in teaching as there are in any field. These disadvantages and the ability to tolerate them are often just as important a measure of one's total satisfaction from a position as the positive pleasures that we obtain from important **work** well done. Things do not move as rapidly in a university as in industry; not as much money is available for equipment, more red tape is involved in getting it. It is difficult to obtain a perman-

ent core of young men growing up—they leave for industry as fast as they mature and new, inexperienced and inept minds take their places. There are papers and examinations to be corrected and mothers whose sons should not have been flunked. In my case these things did not appear to change the fact that the molding of youth was constantly taking place even in these small irritating ways.

I suppose the pleasure one gets from many an activity depends on the organization with which he is associated. It has been my pleasure during these academic years to work with a group of intelligent and cooperative colleagues at all levels and this as much as any generality discussed above has made teaching a source of great satisfaction to me.

It is hoped that this brief analysis may encourage others in the industrial field who have interests in academic work to analyze their abilities and perhaps test their interest by doing part time teaching or advanced research at a university. Even if they do not decide to adopt teaching as a career, they may find some activities along these lines a stimulating experience.

Bender Joins Calco

Max Bender, F.A.I.C., has joined the staff of the Technical Department of the Calco Chemical Division of the American Cyanamid Company, Bound Brook, N.J.

Chemical Representative Available

I will manage branch plant or represent pharmaceutical or chemical manufacturers abroad. Known expert, European educated. 50. Currently employed. Please reply to Box 120, THE CHEMIST.

What the Research Director Does

Dr. Thomas H. Vaughn, F.A.I.C., vice president for research and development, Wyandotte Chemicals Corporation, speaking at the Fourth Annual Conference on the Administration of Research, of the Industrial Research Institute, held at the University of Michigan in September, outlined some of the duties of the research director.

"The research director," he stated, "shall make a technical evaluation of every new research project. Can we as a technical organization do it? Is the product in our line? Do we have the manpower and the company to carry it through the production stages? Will we have the raw materials; can we get the capital, and where are markets, new or old, where we shall put this new product?"

Then an economic evaluation: "What are the ratios, and for this we use the ratios of similar companies in our line . . . what are the ratio of sales to investment? What is the return

on our investment? What is the profit on sales? And if we are out of line, should we get into line and how should we do it?"

So the research director makes out a prospectus for a project, and in it he puts himself and his staff on the spot. "What do I predict the sales per year will be from the results of this project? What investment will it take on the part of my company? What profit can we expect to make? How long will it take to get there? What will be our materials position?"

From these individual project analyses, Dr. Vaughn added, can be formed a composite research picture and a forecast of the future of the company.

Speaking at the same conference, Raymond D. Stevens, F.A.I.C., vice president, Arthur D. Little, Inc., looked at the problem of what a research director does. He is not charged with the production of new gadgets; he is perhaps the vice president charged with the development of the company.

It is obvious, said Mr. Stevens, that he should be able to run his shop, to determine what research is done, how it is done and who is to do it; but far above this, he should by his knowledge of economic, human, financial, and government matters be able to meet other officers of the company on their own round and make his wishes audible in deter-

mining the policies of the company.

Concern for the future is not the primary concern of the sales, product and personnel men. It is the job of the company's research officer, who must interpret his staff findings honestly and clearly for his lay associates, and who must interpret management policy and finance to his staff for guidance toward proper targets. "He must have breadth, vision, and something of the urge of a crusader," declared Mr. Stevens. "He must have something of the enthusiasm of the pioneer and promoter tempered with an awareness of practical possibilities and honest and realistic allowance for the limitations of men and money."

Fibel Appointed

Dr. Lewis R. Fibel, F.A.I.C., has been appointed head of the Department of Chemical Technology of the State University of New York, Institute of Arts and Sciences, 300 Pearl Street, Brooklyn 1, New York. Dr. Fibel received the A.B. degree at Cornell in 1934; the Master's degree from the University of Kansas in 1936 and the Doctorate from Polytechnic Institute of Brooklyn in 1947. After ten years as research chemist with Lawrence Richard Bruce, Inc., of Stamford, Conn., and W. M. Grosvenor Laboratories, Inc., of New York, N.Y. Dr. Fibel joined the staff of the Institute of Applied Arts and Sciences in the spring of 1950.

Necrology

Thomas W. Mason

Thomas W. Mason, professor emeritus of Pennsylvania State College, State College, Pa., died March 19, 1950 at the age of sixty-six. He was born in Wilkes-Barre, Pa. He received the B.S. and M.S. degrees from Pennsylvania State College.

He was instructor in chemistry at Michigan State College from 1908 to 1909, and professor of chemistry at St. Olaf College from 1909 to 1910. He then joined the teaching staff of Pennsylvania State College where he was professor of analytical chemistry at the time of his retirement. In conjunction with his duties as associate professor he did consulting work in the analytical field. He was the author of several technical papers.

He was a member of The American Chemical Society. He joined THE AMERICAN INSTITUTE OF CHEMISTS in 1936 as a Fellow and was elected to Life Membership in 1946.

Philip A. Wright

Philip A. Wright, research chemist, Bureau of Dairy Industry, United States Department of Agriculture, Washington, D.C., died on September 14, 1950, at the age of sixty-three. He was born in New Haven, Vermont. He received the A.B. degree from Middlebury College, and

after having attended Yale University for two years, completed work for the M.A. degree at the University of Missouri.

He was employed as a research chemist by the United States Department of Agriculture since 1911. His many publications were largely in the field of dairy chemistry.

He was a member of Phi Beta Kappa, The American Chemical Society, and The American Dairy Science Association. He became a Fellow of THE AMERICAN INSTITUTE OF CHEMISTS in 1937.

House Organs Have Wide Influence

George W. Talmage, chairman of the 1951 convention of the American Association of Industrial Editors, and editor of *Brown Recorder*, Minneapolis-Honeywell Regulator Company house organ, stated that the story of what goes on in American industry, as told in house organs published for American workers and management, is read in upwards of one-hundred countries. A preliminary survey by the Philadelphia Industrial Editors Association showed that one company alone mails its employee-employer publication to 5,000 persons in 78 countries. "This relatively obscure arm of American journalism is helping in a big way to bring the truths of American working and living conditions to people of other lands."



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October Meeting

The 271st meeting of the National Council was held October 11, 1950, at The Chemists' Club, New York, N.Y. President Lawrence H. Flett presided.

The following were present: Messrs. M. L. Crossley, L. H. Flett, F. A. Hessel, L. B. Hitchcock, R. H. Kienle, F. D. Snell, L. Van Doren, F. E. Wall, M. J. Kelley, K. M. Herstein, W. L. Prager, and V. F. Kimball.

President Flett appointed Edwin I. Oppel as chairman of the Committee on Membership; other members to be the National Councilors and the Chairmen of the Chapters. "When you bring in a new member to the INSTITUTE," Mr. Flett stated, "You do good to him as well as to our other members. It is important that those officers who have the responsibility of the INSTITUTE at heart should take an important part in bringing in others who are qualified."

COUNCIL

The President was requested to appoint a Committee to Consider Scientific Manpower. A proposed resolution from the American Chemical Society was referred to this committee.

The Treasurer's report was accepted.

An invitation from the Washington Chapter to hold the 1952 Annual Meeting in Washington was referred to the 1951 Council.

The following resolution was adopted:

WHEREAS, the bipartisan Hoover Commission, which was unanimously created by Congress in July, 1947, having made its final Report and Recommendations to Congress in June, 1949, for elimination of duplication, overlapping, and waste in the operations of the federal government, and

WHEREAS, an educational program to acquaint the public with the findings of the Commission and to stimulate the interest of all citizens in continuous participation in the affairs of government on a bipartisan, voluntary basis has been undertaken by the Citizens Committee for the Hoover Report, and

WHEREAS, over 35 percent of the Commission's recommendations have been adopted by the Congress with consequent savings of \$1.5 billions annually, and

WHEREAS, we are now in a period of great crisis, not only in Korea but in other parts of the world where attacks are being made on the freedom which we all cherish, and

WHEREAS, this state of affairs makes it more urgent than ever that thoughtful, public-spirited men and women throughout the United States renew their demands for economy and efficiency in government so that our people can use their resources, human and material, in the fight for freedom, peace, and progress:

THEREFORE BE IT RESOLVED, that the National Council of THE AMERICAN INSTITUTE OF CHEMISTS at its meeting on the 11th day of October, 1950, urges the Congress to make effective the balance of the recommendations of the Commission by enacting the balance of the appropriate legislation;

That cooperation be given by approving members of our organization to the enrollment in the Citizens Committee for the Hoover Report and the educational program of that Committee.

That copies of this resolution be sent to appropriate legislative representatives in Washington and to the Citizens Committee for the Hoover Report, 1421 Chestnut Street, Philadelphia 2, Pennsylvania.

Mr. Herstein reported on the recent meeting of the New York Chapter at which the Employment Project was discussed.

Dr. Snell pointed out that there would be an opportunity for the Institute to hold a meeting during the week of the International Congress of Pure and Applied Chemistry in September, 1951. A Committee under the chairmanship of C. S. Kimball was appointed to make arrangements.

The following new members were elected:

FELLOWS

Arundale, Erving

Section Head Chemical Division, Standard Oil Development Company, P.O. Box 51, Linden N.J.

Baumgarten, Erwin

Chemist, Calco Chemical Division, American Cyanamid Co., Bound Brook, N.J.

Dolian, Frank E.

Assistant Manager, Technical Service, Commercial Solvents Corp., New York 22, New York

Heyman, Karl

Chief Chemist, Kearny Manufacturing Co., Inc., Kearny, N.J.

Ward, Nell M.

Professor and Head, Chemistry Department, University of Omaha, Omaha, Neb.

Kirschenbaum, Donald M.

Assistant, Department of Biochemistry, Columbia University College Physicians and Surgeons, 662 West 168th Street, New York, N.Y.

Opdyke, Donald L.

Research Fellow, Anatomy Department, Washington University Medical School, St. Louis 10, Missouri

MEMBERS**Eager, Doris C.**

Member of Staff, The American Institute of Chemists, Inc., 60 East 42nd St., New York, N.Y.

**RAISED FROM MEMBER
TO FELLOW****Dewey, Parker F.**

Consultant, 514 Calvery Avenue, St. Louis, Missouri.

Seminar

A private five-day seminar, especially designed for company representatives, will be held by Dr. John Gaillard, mechanical engineer, American Standards Association, and lecturer at Columbia University, January 22nd to 26th, at Room 501-A, Engineering Societies' Building, New York, N.Y. Details may be obtained from Dr. Gaillard at 400 West 118th St., New York, 27, N.Y.

A. B. Bowers, director of publicity, Association of Consulting Chemists & Chemical Engineers, Inc., New York, N.Y., visited the West Coast this summer where arrangements were made for informal meetings of Association members and other consulting chemists in the Los Angeles and San Francisco areas.

**Symposium on
Radioisotopes**

The American Chemical Society's Symposium on Radioisotopes, to be held at the Hotel Statler, New York, N.Y., January 19th, includes papers on: "Carbon 14 and New Frontiers of Organic Chemistry," by Dr. Charles E. Crompton; "Nuclear-Inorganic Chemistry", by Dr. Charles D. Coryell; "Some Applications of Radioactive Isotopes in Biochemistry," by Dr. David Rittenberg; "The Commercial Potential of Nuclear Radiation Sources," by Dr. F. C. Henriques, Jr.; "The Use of Radioisotopes in the Petroleum Industry," by Dr. Paul H. Emmett; and "Principles of Radioisotopes Technology," by Dr. Charles Rosenblum.

AIC Activities

C. P. Neidig, F.A.I.C.

Chicago

Chairman, Bruce M. Bare
Chairman-elect, Dr. W. B. Hendrey
Vice Chairman, Dr. B. S. Friedman
Secretary-treasurer,

Dr. Glen Hedrick
Representative to National Council,
Dr. Gustav Egloff

The Chicago Chapter held an open meeting, November 10th, on the timely subject of "The Effect of the Federal Wage and Hour Regulations on the Professional and Economic Status of Chemists." This was discussed from three different angles by the following speakers: Thomas O'Malley, regional director, Wage and Hour and Public Contracts Divisions, U. S. Department of Labor; Donald H. Sweet, patent consultant, and John S. Wilson, personnel manager, Chemical Division, Corn Products Refining Corporation. Following these presentations, a general discussion took place between the speakers and the audience.

Los Angeles

Chairman, Dr. Romeo P. Allard
Vice Chairman, Chester H. Stephens
Secretary, Dr. Edwin A. Goldsmith
Treasurer, Wilfred McNeil Nobel
Representative to National Council,
Dr. L. F. Pierce.

On October 17th, the Los Angeles Chapter presented honorary membership in the AIC to Dr. Robert Eckles Swain, emeritus professor of Chemistry at Stanford University. Dr. Swain addressed the meeting after the dinner at Rodger Young Auditorium, speaking of his impressions of Europe as garnered during a stay of several months earlier this year—his eleventh trip to that continent. (See page 465)

The next meeting of the Los Angeles Chapter will be held December 11th at Rodger Young Auditorium. The speaker of the evening will be Dr. Johan Bjorksten, F.A.I.C. of Bjorksten Laboratories.

Louisiana

On October 5th, the Louisiana Chapter held its first meeting. The election of officers for the coming year was held and the new officers were installed. They are:

Chairman, Prof. Paul F. Bailey
Vice Chairman, Dr. Carl M. Conrad
Secretary-treasurer, H. A. Schuyten
Representative to National Council,
H. A. Levey

A committee was appointed whose function it will be to provide the local schools and universities with speakers to address students majoring in chemistry on the subjects of chemistry as a profession and their rights

and duties as chemists. The code of ethics of the AIC is to be used as a basis for a portion of the talks.

It was suggested that a committee be appointed to look into the matter of selecting a recipient for an AIC scroll for meritorious or outstanding service in chemistry.

Pennsylvania

Chairman, C. P. Neidig

Vice Chairman, Ronald J. Baird

Secretary-treasurer, John H. Staub

Representative to National Council,

Hillary Robinette, Jr.

The first meeting of the year was held October fifth at the Engineers' Club. The speaker was Dr. H. B. Hass, director of research and development, General Aniline and Film Corporation. He gave a very interesting talk entitled, "New Developments in Acetylene Chemistry."

New York Chapter

Chairman, Dr. M. J. Kelley

Vice Chairman, Dr. A. F. Guiteras

Secretary-treasurer, G. A. Kirton

Representative to National Council,

Dr. Martin Meyer

Over one-hundred members of the Chapter met November 10th, at the Downtown Athletic Club, New York, N.Y., to hear Dr. Kenneth S. Pitzer, director, Division of Re-

search, U.S. Atomic Energy Commission, speak on "Chemistry and Physics Starting One Millisecond after an Atomic Explosion," a talk illustrated with slides; followed by a discussion of the development of "The Atomic Bomb," by Dr. William L. Laurence, science editor of *The New York Times*.

New Jersey

Chairman, C. A. Amick

Chairman-elect, P. J. Gaylor

Secretary, Dr. H. W. Mackinney

Treasurer, Dr. E. R. Hanson

Representative to National Council,

Harry Burrell

The New Jersey Chapter met at the Esso Research Center, Linden, N.J., November 30th. Dr. R. M. Burns of the Bell Telephone Laboratories spoke on "Chemists in the Electrical Industry." Members are being appointed to represent the Chapter on the Finance Committee of the AIC Proposed Employment Project and to cooperate with the editor of *The Chemist* on calling the attention of qualified advertisers to this publication. Dr. W. J. Sparks, Dr. V. N. Morris, and P. J. Gaylor were appointed to the Nominating Committee.

Smith Named Manager

Dr. L. B. Smith, F.A.I.C., was named manager of the basic laboratories section of the Research and Development Department of Lever Brothers Company, New York, N.Y.

Assistant Editor

Peter J. Gaylor, F.A.I.C., editor of *The Technical Survey*, 744 Broad Street, Newark 2, N.J., announces that Walter Gaylor has been appointed assistant editor. He holds the M.A. degree from Harvard and was formerly associate professor of English at Illinois College.

Dr. James R. Withrow, Hon. AIC, consulting technologist, Columbus, Ohio, and Professor Joseph Koffolt, F.A.I.C., were invited to luncheon, June 8th, at Patterson Wright Field, with Major General Craigie, who has now been assigned to Tokyo. Dr. Withrow is part-time consultant on research problems connected with the Graduate Center at the Field.

"Paint Research at Mid-Century", the paper presented by Harry Burrell, F.A.I.C., at the Annual Meeting of the AIC in May, 1950, has been published in *Canadian Chemistry & Process Industries*, August, 1950, issue.

For Your Library

Analytical Absorption Spectroscopy Absorptimetry and Colorimetry

Edited by M. G. Mellon. 1950. John Wiley & Sons, Inc. 618 pp. \$9.00.

In this volume Mellon has assembled many specialties of eight other experts to make an excellent summary of this very dynamic subject. M. L. Moss has covered

the chemistry of the preparation of samples for absorptimetric measurements. M. G. Mellon himself covers the general principles of that type of measurement in terms of physics rather than chemistry. W. B. Fortune takes up the types of color comparators. Ralph H. Muller covers filter photometers, and K. S. Gibson spectrophotometers for both the ultra-violet and visible regions. E. R. Holliday covers photographic methods. E. I. Sterns discusses the application of data from UV and visual spectrophotometry with a wealth of detail. L. J. Brady takes up the spectrophotometry of the infrared region in terms of instruments. The book concludes with measurement and specification of color by Deane B. Judd. The book is to be recommended to anyone who wants the fundamentals of the subject in detail. It's good.

—Dr. Foster Dee Snell, F.A.I.C.

Advanced Organic Chemistry

By Reynold C. Fuson. John Wiley & Sons, Inc. 669 pp. \$8.00.

This is a general review of the more important reactions of organic chemistry. Relatively modern developments such as carbon monoxide synthesis are well presented. However, this reviewer would like to have found some data on silicones and hormone chemistry. Notwithstanding this omission, the book has real merit, particularly as it gives detail and references which are often lacking in books of this type.

—Dr. Frederick A. Hessel, F.A.I.C.

The Structure of Matter

By F. O. Rice and E. Teller. John Wiley & Sons. 1949. 361 pp. 6" x 9 1/2". \$5.00.

The postulates of Bohr and the empirical laws of spectroscopy and atomic physics were finally, about 1926, welded (De Broglie, Heisenberg, Schroedinger and Dirac) into a finished discipline called quantum mechanics. With this statement, the authors present the various developments of nuclear chemistry, including energy production in the stars. This book is non-mathematical and yet gives the essentials of recent developments and thinking.

—Dr. John A. Steffens, F.A.I.C.

Chemical Elements and Their Compounds

By N. V. Sidgwick. Oxford University Press. Vols. I and II. 1703 pp. 6 1/4" x 9 1/2". \$14.00

In these two volumes Prof. Sidgwick has taken each group of the periodic system and discussed each element in it, either individually where required, or jointly with similar elements, in sufficient detail to point out the structure and behavior of all of its compounds. Prof. Sidgwick is eminently qualified to perform this task, having himself contributed substantially to the building up of modern chemical structural theory. The work has been done with great care and tremendous labor, as exemplified by the fact that each of the many chapters has approximately 1000 references to the original literature, many of them as recent as 1948. There may be minute errors in nomenclature and theory here and there. The reviewer, however, is not qualified to point these out. There are a fair number of typographical errors which are anything but important. All in all, the reviewer feels no necessity to restrain his enthusiasm for the book. He considers it fully justified since there has been nothing since Roscoe and Schorlemmer, which could approach the present work in completeness. In modern point of view, the book stands alone.

It is recommended, therefore, with the highest enthusiasm to anyone who needs a handy reference work in inorganic chemistry and to all libraries, public, private, and university.

—Karl M Herstein, F.A.I.C.

Chemical Books Abroad

Rudolph Seiden, F.A.I.C.

Verlag Chemie, Weinheim/Bergstrasse: *Metallkeramik*, by Franz Skaupy, 4th ed., 267 pp., 68 ill., DM 19. Metal ceramics, the production of metallic objects from metal powders, is a branch of metallurgy only 20-odd years old. Its present status is set forth in this book, the new edition of which is enlarged by a chapter on the new and interesting sinter bodies formed from two or more very heterogeneous components, e.g., metals and oxides.

Verlag von Ferdinand Enke, Stuttgart: *Reduktion*, by Hans von Euler and Hans Hasselquist, 1950, 55 pp., DM 6.90. The first reductone, $C_5H_4O_2$, was prepared in 1933, by heating glucose with dilute NaOH. Since then many analogous compounds with reducing properties have been developed. They may be of importance for yet unsolved problems of organic chemistry (kinetics, electromers, mesomers) and biochemistry (metabolism).

Dictionaries, Inc., New York, (published in the public interest by authority of the Attorney General): *Fachwoerterbuch fuer die Farbstoffe und Textilhilfsmittel verbrauchenden Industrien*, German-English, 1947, 489 pp., \$12.50. Compiled by the staff of the I. G. Farbenindustrie, this dictionary of about 21,000 terms of dyes, textile auxiliary and related products, and their properties is addressed primarily to those engaged in the dye, textile, paper, leather and varnish industries, be they scientists, technicians or businessmen; yet it contains so many other chemical and technical terms that it will be helpful to anyone who has to translate German chemical literature.

Todd Publishing Group, London W.1. (Frances Sharp, New York): *Penicillin, and Other Antibiotics*, by G. W. S. Andrews and J. Miller, 1949, 160 pp., \$2.25. After a general discussion of antibiotics, the authors describe more fully penicillin, streptomycin, and tyrothricin. They conclude the book with a few postulates for future developments in this new field of science and industry.

Leonhard Hill Ltd., London W.1.: *Cosmetic Materials*, by Ralph G. Harry, 1950, 479 pp., 35 s. This encyclopedia of raw materials, their origin, characteristics, uses and dermatological action is not limited to cosmetics, as the title implies, but contains also data of interest to people engaged in the preparation of pharmaceuticals. Many literature sources are cited to support the statements and recommendations made in the text; they greatly increase the value of this book.

Information

"New Efficient Emulsifier for Orthodichlorobenzene." Information and experimental samples available from Glyco Products Co., Inc., 26 Court Street, Brooklyn 2, N. Y.

"New Photo-Electric Colorimeter, Model 8. Descriptive bulletin B-214. Coleman Instruments, Inc., 318 Madison St., Maywood, Ill.

"Journal of Chemical Society of London." Reprints of Vols. 1 to 23, (1849 to 1870). Price (subject to alteration) £110 for the set; £5 10s. Od William Dawson & Sons, Ltd., Scientific Periodicals Dept., 102, Wigmore Street, London, W.1, England.

"Lektromesh. Metal screen made by electroforming." Descriptive literature. The C. O. Jelliff Mfg. Corp., Southport, Conn.

"List of NBS Standard Samples of Hydrocarbons and Instructions for Ordering." National Bureau of Standards, Washington 25, D.C.

Nine filmstrips on chemistry are announced by the McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York 18, N.Y. Titles are: (1) The Kinetic Molecular Theory, (2) The Atomic Theory, (3) The Chemical Formula, (4) Equations, (5) The Structure of the Atom, (6) Ionization, (7) Acid and Basic Solutions, (8) Electrolysis, and (9) The Periodic Table. Each filmstrip consists of approximately forty-five frames. The technical advisers were the authors of the book, *Chemistry for our Times*, with which the series is correlated, Elbert C. Weaver, F.A.I.C., and Dr. Laurence S. Foster. While the filmstrips were prepared to accompany use of the textbook, they may be used for general lecture purposes. Price: \$45.00 for the set; or \$5.50 each.

"Standard Samples Issued or in Preparation by the National Bureau of Standards." 19 pp. Free on request from the Publications Section, National Bureau of Standards, Washington 25, D.C.

"Irv-O-Slot slot Insulation." Information sheet. Irvington Varnish & Insulator Co., 6 Argyle Terrace, Irvington 11, N.J.

"Master Moisture Meter." Developed by Michigan State College. Information sheet. The C. H. Baldwin Company, Lansing Michigan.

"Old and Rare Books." Catalogue 10. H. A. Feisenberger, 11a Duke Street, Manchester Square, London, W.1, England.

"New Progressive Electronic Folder for Plastic Sheets, etc." Information sheet. Progressive Electronics, Co., Inc., 130 Eighth St., Passaic, N.J.

"Vertical Tube Sulfur Determination Apparatus." Information sheet. Precision Scientific Company, 3737 W. Cortland St., Chicago 47, Ill.

"Vacuum Oven for Use in Small Laboratories." Information sheet. National Appliance Co., Swan Island, Portland 18, Oregon.

"Laboratory Planning Book." Ask for free copy from the Scientific Apparatus Makers Association, 20 North Wacker Drive, Chicago 6, Ill.

"Market Data on Soap-Making Chemicals." Reprints of a series of articles, by Dr. John R. Skeen, F.A.I.C., in *Soap and Sanitary Chemicals*. Copy is available on request to Foster D. Snell, Inc., 29 West 15th St., New York 11, N.Y.

"New Portable Water Bath." Leaflet. Fisher Scientific Co., 717 Forbes St., Pittsburgh 19, Pa.

"Alumetex Process for Electroplating on Aluminum." Mac Dermic, Inc., Huntingdon Ave., Waterbury, Conn.

"I. G. Farben Manufacturing Processes for Chemical Intermediates. Research Bulletin No. 40." List of available translations. Research Information Service, 509 Fifth Ave., New York 17, N.Y.

"New Line of Solenoid Valves." Charles Engelhard, Inc., 850 Passaic Ave., East Newark, N.J.



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Fisher Scientific Company has appointed Dr. Woodford Sink as director of technical training on its Pittsburgh staff. He will head the education program for salesmen and servicemen on the technical features of Fisher equipment.

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—Dr. Summer H. Slichter

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—The Research Viewpoint

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Keen ringing air, which sets the blood on fire,
And makes the old man merry with the young
Through the short sunshine, through the longer night?
Or southern Christmas, dark and dank with mist,
And heavy with the scent of steaming leaves,
And rose-buds mouldering on the dripping porch;
On twilight, without rise or set of sun,
Till beetles drone along the hollow lane
And round the leafless hawthorns, flitting bats
Hawk the pale moths of winter?

Welcome then . . .

In whatsoever garb, or gay or sad,
Come fair, come foul, 'twill still be Christmas-day.

—Kingsley

However it Comes



May the Spirit
of the Holiday
Season be Yours

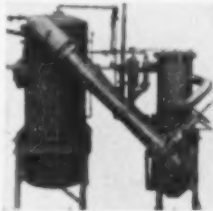


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National Council Meetings

Meetings of the AIC National
Council are scheduled to be held at
The Chemists' Club, 52 E. 41st
Street, New York, N.Y. on the
following dates:

January	10, 1951
February	14, 1951
March	14, 1951
April	11, 1951
May (date not set)	1951
June	13, 1951

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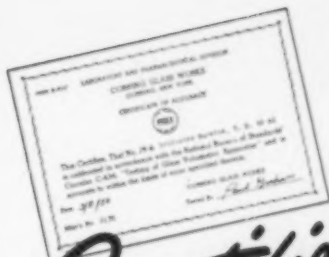
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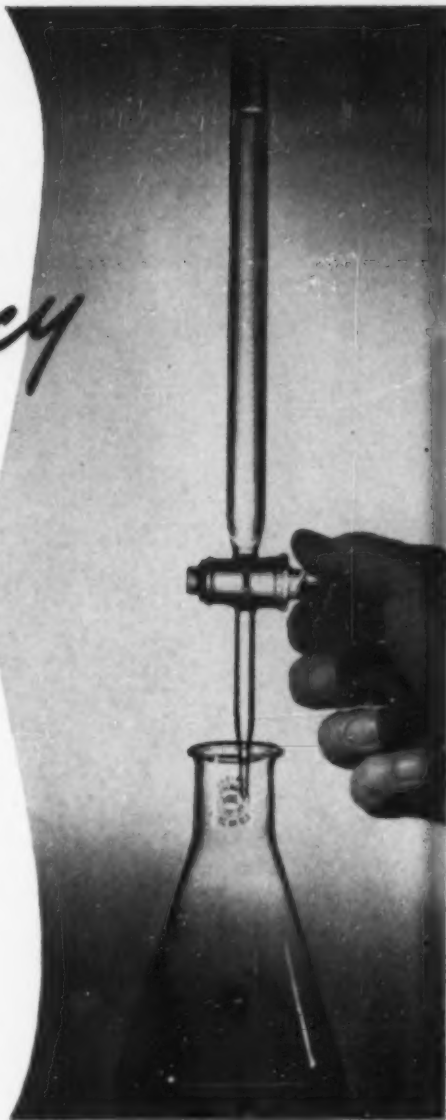



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